Perplicaria clarki Maxwell Smith, A Living Fossil

BY

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AND

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(Plate 57)

While monographing the rich molluscan fauna of the Caloosahatchee of Florida, Dall in 1890 came across a singular shell, so perplexing that he named it *"Perplicaria perplexa"* assigning it with some hesitation to the Mitridae. This curious shell has remained one of the most interesting members of the Caloosahatchee fauna, rare at most localities, but sufficient numbers have been gathered over the years that it is now well represented in many museum and private collections and its familial relationship understood. Druid Wilson was the first to indicate its proper placement amongst the Cancellariidae which its early growth forms clearly show. A full growth series of the species was illustrated by Olsson & Harbison (1953) in their monograph of the Pliocene mollusca from St. Petersburg, Florida. The earliest species of the genus is *P. prior* Maury, 1910, from the Lower Miocene of the Chipola River in northern Florida, the species as yet known only from the type specimen. In 1928, Woodring illustrated a small *Mitra*-like *Cancellaria* from the Bowden Miocene of Jamaica which may prove to be a *Perplicaria* when more fully known.

The next advance in our knowledge of *Perplicaria* came with the unexpected discovery of a living species at Panama through the description of *P. clarki* by Maxwell Smith in 1947 based on a small specimen collected by Mr. Walter D. Clark (a former postmaster) at Venado Beach near the Pacific terminus of the Panama Canal. The specimen is a small, immature shell, about 16.2mm in length and was so poorly described and illustrated that its characters remained obscure. A second specimen of this rare species was collected recently by the junior author (Bergeron) at Isla Senorita (a small patch of rocks near the island of Pedro Gonzalez) in the Pearl Islands of the Gulf of Panama. This specimen has a length 32.6mm, about twice the size of Maxwell Smith's type. Although dead when found and somewhat faded in color, it is otherwise perfect. Its most outstanding feature is the series of thickened swellings or varices along the length of the spire marking former lip positions. Its color is a pale brown or fawn encircled by a series of small, elongated, white spots. Two small pillar plaits are visible in the aperture about the middle of the inner lip.

The resemblance of *Perplicaria clarki* to the fossil *P. perplexa* is striking, especially as to shape, the principal differences being its strong varices which are very slightly developed in the fossil, its somewhat lesser inflation of the early spire whorls and a smoother overall sculpture. *Perplicaria perplexa* is a variable species, hence these differences are not particularly significant.

Our illustrations of *Perplicaria clarki* show the shell in various aspects. Figure 1 (Plate 57) shows the general color pattern of encircling white spots; the other two figures show the shell after being whitened with magnesium oxide to bring out details of sculpture.

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Northern and Southern Range Extensions of *Aplysia vaccaria*

(Gastropoda : Opisthobranchia)

BY

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The giant black sea hare *Aplysia vaccaria* Winkler, 1954, although locally common, has been reported from a very narrow range extending from San Pedro, California, to the vicinity of Cabo Colnett on the Pacific side of the Baja California Peninsula (Farmer, 1967). The fact that this enormous gastropod has not been indicated from additional localities is perplexing since it is possibly the world's largest, and consequently one of the most conspicuous, of all intertidal invertebrates. Individuals measuring 15 inches in length are not uncommon at Laguna Beach, Doheny Beach, La Jolla and Point Loma (California) at least during the winter and early spring. Subtidal specimens from off La Jolla have been reported to attain a length of up to 30 inches (Winkler & Dawson, 1963).

During a field trip to the rocky intertidal area at Hammond's Point, Santa Barbara, on November 12, 1966, I observed about 20 individuals of this species interspersed among an equal number of the smaller and lighter colored *Aplysia californica* Cooper, 1863. Mr. Gale Sphon, of the Santa Barbara Museum of Natural History, informs me that *A. vaccaria* is quite common on the mud flats in Morro Bay. These observations extend the range about 200 miles to the northwest. It is likely that Morro Bay and its environs will prove to be the northern limit of *A. vaccaria* since it is unknown from the Monterey peninsula and regions to the north, where collecting is rather intense.

On April 12 and May 14, 1964, Miss Joan E. Steinberg and I observed *Aplysia vaccaria* to be an abundant inhabitant of the rocky intertidal regions at Bahía de los Angeles in the northern part of the Gulf of California. Fewer numbers of *A. californica* were also observed in the same habitat. This latter species has already been reported from several Gulf localities (Winkler, 1958).

The present records add another species to the list of opisthobranchs indigenous to both the Californian and the northernmost regions of the subtropical Panamic faunal provinces summarized in an earlier paper (Lance, 1966).

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